

1 WHAT IS CLAIMED IS:

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3 1. A pharmaceutical composition comprising an effective amount of (R,R'),(R,S')-
4 amphetaminil sulfate or another pharmaceutically-acceptable salt thereof,
5 substantially free of (S,R'),(S,S')-amphetaminil, and at least one
6 pharmaceutically-acceptable carrier, diluent, excipient or additive.

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8 2. A controlled release formulation comprising the pharmaceutical composition of
9 claim 1.

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11 3. An immediate release formulation comprising the pharmaceutical composition of
12 claim 1.

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14 4. An oral dosage form comprising the pharmaceutical composition of claim 1
15 consisting of about 0.1 to about 100 mg of (R,R'),(R,S')-amphetaminil sulfate or
16 another pharmaceutically-acceptable salt thereof.

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18 5. The dosage form of claim 4 consisting of about 1 to about 50 mg of (R,R'),(R,S')-
19 amphetaminil sulfate or another pharmaceutically-acceptable salt thereof.

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21 6. The pharmaceutical composition of claim 1 wherein said (R,R'),(R,S')-
22 amphetaminil sulfate or another pharmaceutically-acceptable salt thereof is
23 greater than about 90% of the weight of total amphetaminil.

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2 7.

The pharmaceutical composition of claim 6 wherein said (R,R'),(R,S')-
amphetamine sulfate or another pharmaceutically-acceptable salt thereof is
greater than about 95% of the weight of total amphetamine.

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6 8.

The pharmaceutical composition of claim 7 wherein said (R,R'),(R,S')-
amphetamine sulfate or another pharmaceutically-acceptable salt thereof is
greater than about 99% of the weight of total amphetamine.

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10 9.

A method for prophylaxis or treatment of a human condition or disease requiring
or benefitting from a central nervous stimulant comprising administering to said
human an effective amount of a pharmaceutical composition comprising
(R,R'),(R,S')-amphetamine sulfate or another pharmaceutically-acceptable salt
thereof, substantially free of (S,R'),(S,S')-amphetamine.

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16 10.

The method of claim 9 wherein said administering is parenteral, transmucosal or
transdermal.

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19 11.

The method of claim 10 wherein said transmucosal is orally, nasally, or rectally.

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21 12.

The method of claim 10 wherein said parenteral is intra-arterial, intravenous,
intramuscular, intradermal, subcutaneous, intraperitoneal, intraventricular, or
intracranial.

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- 1 13. The method of claim 9 wherein the amount administered is about 0.1 to about 100
2 mg daily.
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- 4 14. The method of claim 13 wherein said amount administered is about 1 to about 50
5 mg daily.
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- 7 15. The method of claim 14 wherein the amount is administered from one to about
8 four unit doses per day.
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- 10 16. The method of claim 15 wherein the amount administered is one or two unit doses
11 per day.
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- 13 17. The method of claim 5 wherein the amount of (R,R'),(R,S')-amphetaminil sulfate
14 or another pharmaceutically-acceptable salt thereof is greater than about 90% of
15 the weight of the total amphetaminil.
16
- 17 18. The method of claim 17 wherein the amount of (R,R'),(R,S')-amphetaminil
18 sulfate or another pharmaceutically-acceptable salt thereof is greater than about
19 95% of the weight of the total amphetaminil.
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- 21 19. The method of claim 18 wherein the amount of (R,R'),(R,S')-amphetaminil
22 sulfate or another pharmaceutically-acceptable salt thereof is greater than about
23 99% of the weight of the total amphetaminil.

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2 20. The method of claim 9 wherein said amount of (R,R'),(R,S')-amphetaminil
3 sulfate or another pharmaceutically-acceptable salt thereof, substantially free of
4 (S,R'),(S,S')-amphetaminil is administered together with a pharmaceutically-
5 acceptable carrier, diluent, excipient or additive.

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7 21. The method of claim 9 wherein said condition or disease is narcolepsy, attention
8 deficit hyperactivity disorder (ADHD), depression, Parkinson's disease, cognitive
9 dysfunction, or Alzheimer's disease, renal dysfunction, asthma, obesity, nicotine
10 withdrawal, hypotension, apathy, potentiating activity of a conventional
11 antidepressant, potentiating an opiate for pain control, or reduced energy
12 associated with chemotherapy or radiation therapy.

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14 22. The method of claim 9 wherein said condition or disease is amenable to treatment
15 by preferential activation of mesolimbic-mediated behavior.

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